May 27, 1969

F. B. MILLER ET AL

3,446,394

BULK BEVERAGE SHIPPING CONTAINER AND PROTECTIVE SUPPORT THEREFOR

Filed Feb. 5, 1968

Sheet 1 of 2

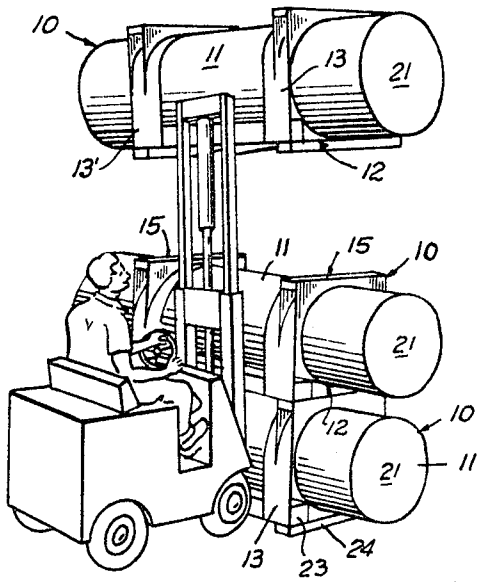


Fig. 1.

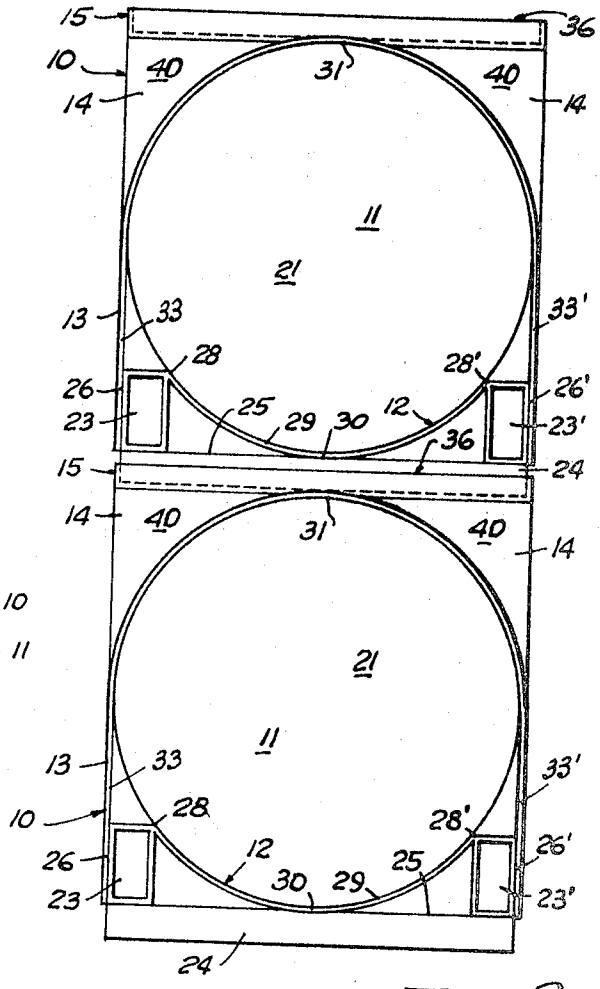


Fig. 2.

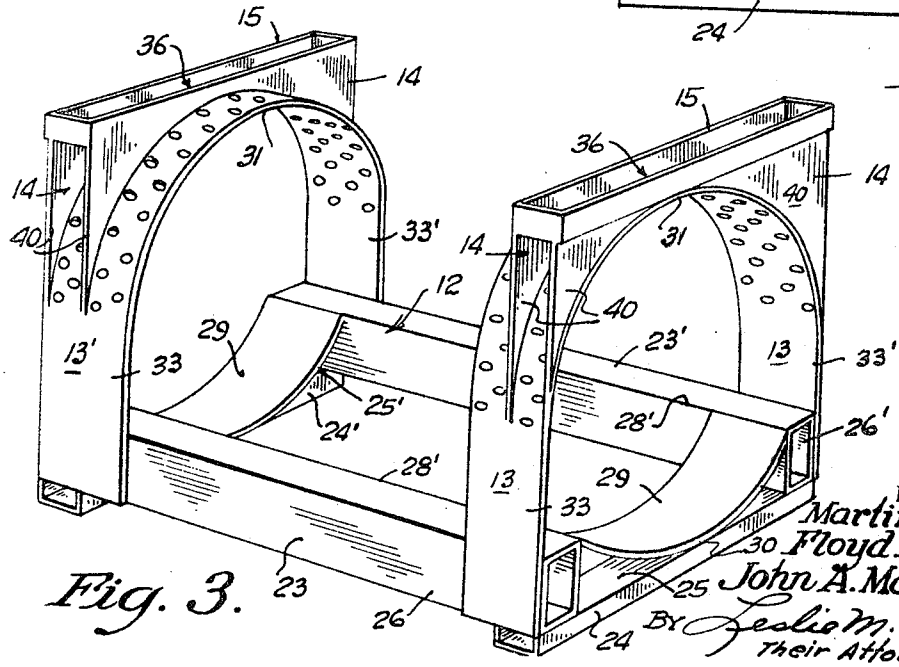


Fig. 3.

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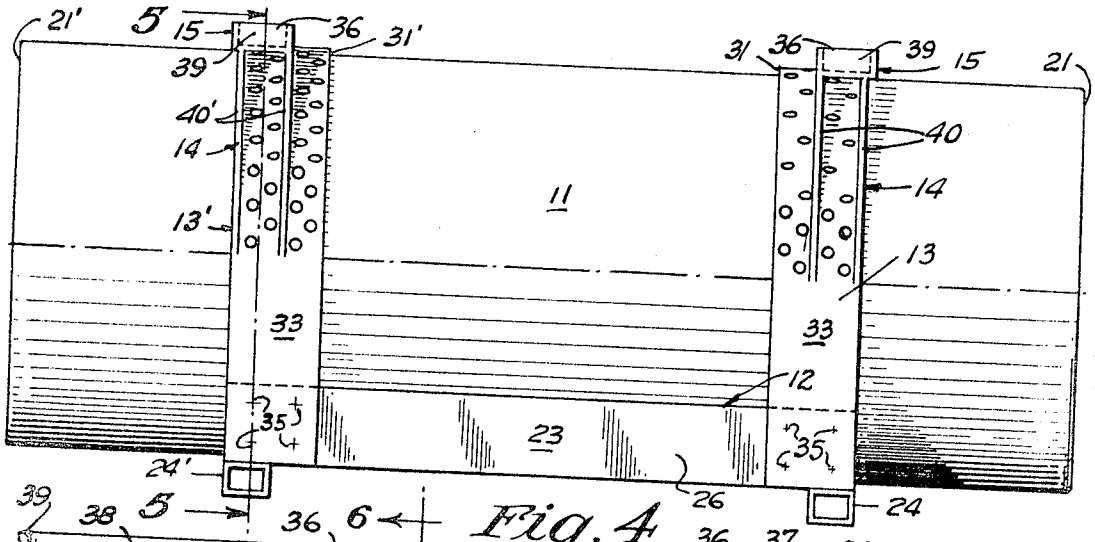


Fig. 4.

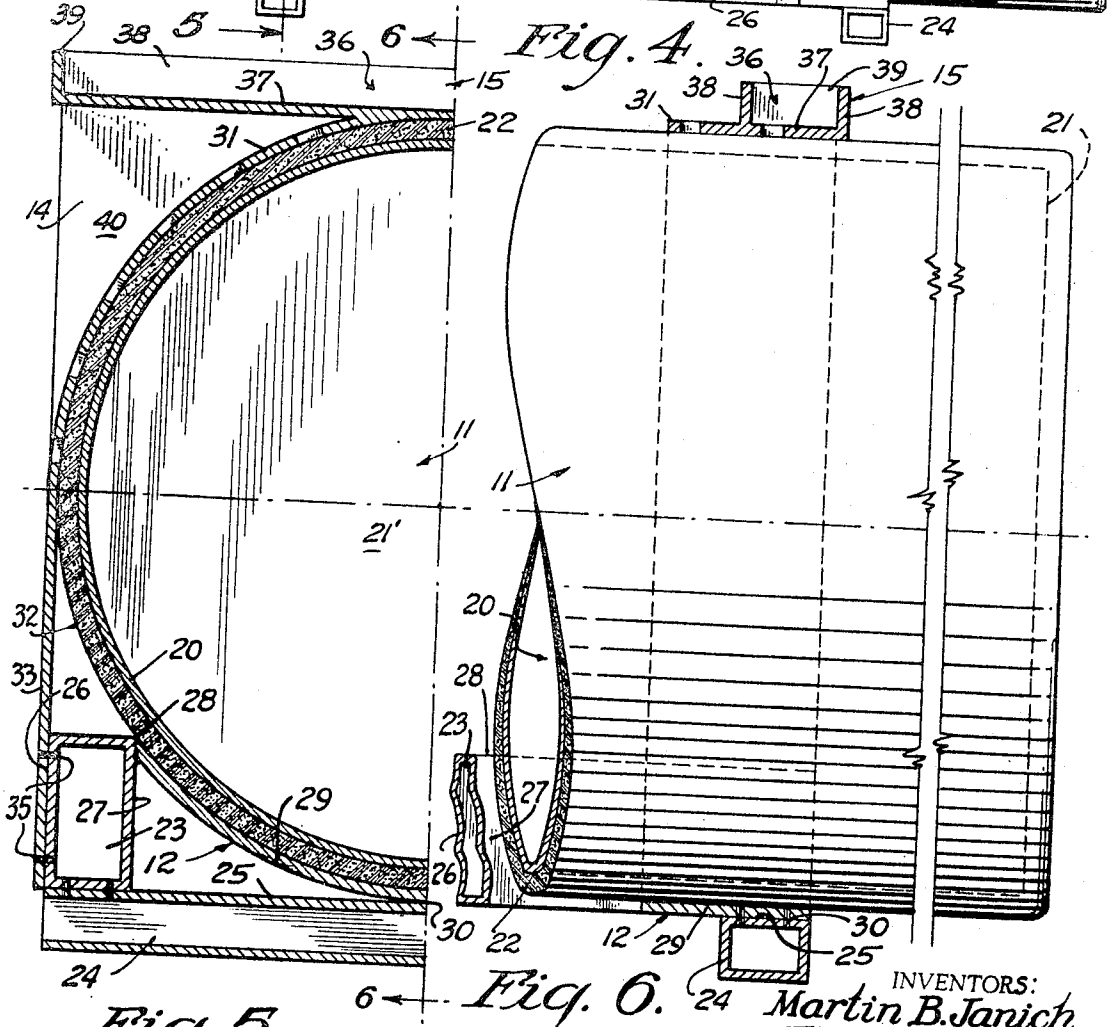


Fig. 5.

Fig. 6.

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BULK BEVERAGE SHIPPING CONTAINER AND PROTECTIVE SUPPORT THEREFOR

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8 Claims

ABSTRACT OF THE DISCLOSURE

A bulk beverage shipping tank encased in a protective coating and stabilized for transit and stacking as well as storage within a minimum of space. A shipping drum secured on a cradle support by protective brackets for receiving and supporting the cradle support of a similarly secured shipping drum.

Background

The present invention is concerned with the shipping of alcoholic beverages in bulk form. For example, genuine Scotch whiskey can only be so labeled if distilled and prepared in Scotland. It is therefore customary to ship Scotch whiskey in bulk form in wooden barrels or kegs. These barrels are difficult to handle and store and often they become damaged in the course of handling and transportation by stowage in a ship's hold. Moreover, with wooden barrels evaporation occurs which poses a problem at customs and during the tax establishing period at bottling plants.

Barrel stacking and drum handling equipment of various types and kinds are well known in the art. They are usually cradle type supports upon which the barrels or drums are seated to prevent rolling or movement thereof relative to such equipment. Moreover, such prior devices are usually seaparte means upon which barrels or drums are placed or merely supported temporarily. Examples of such prior equipment may be found in Weaver Patent No. 2,611,495 dated Sept. 23, 1952; Hutchinson Patent No. 2,803,363 dated Aug. 20, 1957; and Malcher Patent No. 3,019,916 dated Feb. 6, 1962.

Statement of invention

The present invention contemplates the provision of a container or tank permanently mounted and secured in a protective crate for stabilizing such tank for shipping, stacking and storage within a minimum of space. In this connection it is an object to provide a protective crate so constructed as to enable stacking and placement of such tanks in close proximity to one another to eliminate loss of cargo shipping space within the hole of a ship or confines of a freight car or trailer.

Ordinary wooden barrels have a capacity of about 50 gallons. The present invention proposes the use of a stainless steel tank which will hold from 8 to 10 barrels of liquid and embodies means for supporting such tank to assure against damage, denting and above all facilitate ease of handling and storing as well as stacking in a minimum of space.

It is an object of the present invention to provide a simple yet effective drum rack embodying a base or cradle support for an elongated tank and means for securing the tank in the cradle and providing rigid bracketing on the said securing means for receiving and supporting the base of another drum rack of like kind.

It is another object to provide a protective support for the drums which serves as a firm support for successive drums likewise protected.

These and other objects of the present invention will become apparent from a reading of the following description and drawings in which:

FIG. 1 is a perspective view of several drums in racks of the present invention stacked and one being handled by fork lift;

FIG. 2 is an end view of the two stacked drums and racks as seen in FIG. 1;

FIG. 3 is a perspective view of the rack only;

FIG. 4 is a side view of one rack and drum;

FIG. 5 is a half section through the rack and drum of FIG. 4;

FIG. 6 is a fragmentary section through the rack of FIG. 5 taken along line 6—6 thereof, the drum being shown in elevation and foreshortened.

General description

The bulk fluid or beverage shipping container of the present invention consists of a unit **10** generally so designated in the drawings and comprising a cylindrical tank **11** supported on a base in the form of a cradle **12** and secured to the latter by means of straps **13–13'** each of which includes a bracket **14** providing means **15** for receiving the cradle of another such shipping container. Moreover each such shipping unit **10** is so constructed as to facilitate the handling thereof by means of a conventional fork-lift as illustrated in FIG. 1.

More specifically and in detail each of the essential elements of a unit **10** will now be explained.

The cylindrical tank **11** is an elongated tube **20** having its ends closed by end walls **21** and **21'**. Although not shown, the tank **11** is provided with a bung-hole and suitable threaded plug or stopper properly sealed in a conventional manner for filling and/or emptying such tank. The tank **11** is preferably made of stainless steel of a proper gauge to maintain the cleanliness required. In accordance with the present disclosure the tank **11** is contemplated to be of such dimension as to have a capacity of from 8 to 10 barrels thereby appreciably minimizing loss of space as would result in a shipment of that many barrels. Moreover, by reason of the use of stainless steel as distinguished from oak barrels as was the custom heretofore, leakage as well as evaporation of the beverage contained is practically eliminated.

As a further safeguard to the contents of the tank **11** the latter is covered with a protective coating of material **22**, which will provide a cushion around the tank. This material may be any well known cushioning material which will yield to shock caused by bumping of other objects against the sides and end walls of the tank. For best results in the shipping of Scotch whiskey, a material known to the trade under the name Tekite has been found most satisfactory as an outer shell. This provides a plastic jacket for a polyurethine lining which is yieldable to impact from outside objects and thereby prevents denting or indenting of the container walls.

The base **12** comprises a cradle formed between a pair of side beams **23** and **23'** having their ends secured as by welding and the like to a pair of foot portions **24** and **24'** respectively in the form of a rectangle. Structurally the side beams **23–23'** are each a length of hollow tubing of rectangular cross section having their ends disposed upon the upper surface **25–25'** of the respective foot **24** and **24'**. The rectangular beams **23–23'** are of suitable strength to rigidly support the tank **11** and have their greater dimension vertically disposed to withstand the bending stresses caused by such load. They also provide bearing beams engageable by the tines of a fork-lift as illustrated in FIG. 1.

The foot portions **24–24'** serve to elevate the side beams **23–23'** above a floor surface sufficiently to allow the

tines of a fork-lift to pass beneath them. The foot portions 24–24′ are of such length as to dispose the side beams 23–23′ in spaced relation such that their outer faces 26–26′ are in a plane vertically below the peripheral extremity of the coated tank 11. (See FIG. 5.) In other words the distance between outer faces 26–26′ of the spaced beams is comparable to the diameter of the tank 11 and coating 22 thereon.

The inner faces 27–27′ of the side beams 23–23′ are disposed such that the upper inner corners 28–28′ thereof (FIG. 5) will tangently engage the periphery of the coated tank 11. A sling 29–29′, having a curvature congruent to that of the periphery of the tank 11 coated is secured to each corner 28–28′ and rests tangentially as at 30 upon the upper surface 25–25′ of the respective foot portion 24–24′ midway between the beams 23–23′.

Thus it will be noted in FIG. 2 that the coated tank 11 becomes seated in the cradle-like support provided by the base 12.

The means for securing the tank to the base 12 comprises a pair of U-shaped straps of metal 13–13′. The bight portion 31–31′ of each U-shaped strap 13 and 13′, respectively is struck on a radius comparable to that of the outer surface 32 of the coated tank 11. This disposes the leg portions 33–33′ of each U-shaped strap a distance apart equal to the diameter of the outer coated tank 11. Moreover, the leg portions thus extend tangently from the tank 11 to lie flush against the outer faces 26–26′, respectively, of the side beams 23–23′ of the base 12. The lower ends of the legs 33–33′ are suitably secured as by welding 35 to the adjacent outer face 26–26′ of the side beam they engage to thereby permanently secure the coated tank 11 firmly upon the cradle like base 12 at each end of the latter.

The means 15 for supporting several units 10 one upon the other comprises a tray-like pan 36–36′ each having its bottom 37 disposed tangent to the bight portion 31–31′ of the U-shaped strap 13 or 13′ with which it is associated. The pan 36–36′ has side walls 38 and end walls 39 extending upwardly from the bottom wall 37 such as to receive the foot portion 24–24′ of the base 12 of another unit 10.

The pan 36–36′ is maintained at right angles to the leg portions 33–33′ of their respective U strap unit 13 or 13′ by a pair of bracket webs 40–40′ extending upwardly from the bight portion 31 or 31′, as the case may be. The webs 40–40′ are welded to the bottom 37 of the respective pan 36–36′ as well as the bight portion 31–31′ which they engage.

The pans 36 and 36′ of each U strap 13–13′ are thus disposed upon the upper surface of the unit 10 to register exactly with the foot portions 24 and 24′ of another unit 10. As illustrated in FIGS. 1 and 2 successive units 10 can thereby be stacked one upon the other and interconnected such that they will not shift relative to each other.

From the foregoing it will be appreciated that several such units 10 can be stacked one upon the other within a warehouse, hole of a ship or within a box car or freight carrier with assurance that they will not shift relative to each other either longitudinally or laterally. Moreover, many such stacks of units placed side by side and end to end affords storage or stowage of the bulk fluid cargo within a minimum of space. Space on cargo carriers being at a premium this is a decided advantage over the former method of shipping such material in casks or barrels.

The arrangement of the present bulk beverage or liquid carrier is such that several units can be sling carried by crane from the dock into the hole of a ship and vice-versa. By the same token each unit 10 can be removed from the other by means of a fork-lift with a minimum of effort. The interlocking relation of stacked units being by gravity and the seating of an upper unit in the pan-like support of a lower unit they are easily separated, one by one.

Having thus described the bulk fluid shipping container of the present invention in specific detail it will be appreciated by those skilled in the art that the structure may be varied, modified and/or altered without departing from the spirit or scope of the invention. We therefore desire to avail ourselves of all variations, modifications and/or alterations of such structure as may fairly come within the purview of the appended claims.

We claim:

1. A bulk beverage shipping, storage and handling unit comprising:
   (a) a cylindrical drum,
   (b) a base including a pair of parallel foot portions and a pair of side beams arranged in parallel relation to said drum and having their ends supported on and secured to the ends of said pair of foot portions with the outer face of said side beams spaced from each other a distance comparable to the diameter of said drum and their inner corners engageable with the latter for receiving and supporting said drum; and
   (c) a pair of arcuate straps congruent to the periphery of said drum and each having their ends secured to the inner corners of the respective side beams and their mid-portion tangentially engaging the upper surface of a respective one of said foot portions for providing a cradle support for said drum.

2. The device in accordance with claim 1 in which said means embracing said drum comprises a pair of U-shaped straps each having a bight portion encircling said drum and a pair of leg portions extending tangently from said drum and secured to the outer face of the respective said side beam of said base.

3. The device in accordance with claim 2 including in combination:
   (a) a tray tangently disposed upon the bight portion of each of said U-shaped straps for receiving and supporting the foot portions of the base of another like unit.

4. The device of claim 1 including web portions between said tray and the bight portion of each of said U-shaped straps.

5. A bulk beverage shipping, storing and handling unit comprising:
   (a) a cylindrical drum,
   (b) a rack for supporting said drum including:
      (1) a base having a pair of foot portions each of a length comparable to the diameter of said drum,
      (2) a pair of side beams having their ends disposed and secured upon the outer extremeties of said foot portions with their outer faces aligned with the outer ends of said foot portions, and their inner upper corners in engagement with said drum for supporting the same above said foot portions, and
      (3) a pair of U-shaped straps each having a bight portion wrapped around said drum and its leg portions extending tangentially from the latter and secured to the outer face of the respective side beam for securing said drum permanently to said base.

6. The device in accordance with claim 5 including arcuate straps having a curvature congruent to the periphery of said drum and having their ends secured to the inner upper corners of said side beams and their mid-portion resting upon the respective foot portion for receiving and supporting said drum.

7. The device in accordance with claim 5 in which said U-shaped straps are disposed adjacent the ends of said base, and a pan tangently supported on the bight portion of each one of said straps for receiving and supporting the foot portion of another one of said units.

8. The device in accordance with claim 5 including web portions between said pan and the bight portion of each of said U-shaped straps providing brackets therefor.

References Cited

UNITED STATES PATENTS

1,029,139	6/1912	Moltrup	214—10.5 X
2,930,562	3/1960	King	248—152
3,257,157	6/1966	Jay	220—97 X

FOREIGN PATENTS

1,119,769	12/1961	Germany.
1,179,501	10/1964	Germany.

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U.S. Cl. X.R.

214—10.5; 248—152